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Thermochemical Properties of Xanthine and Hypoxanthine Revisited

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Abstract

© 2017 American Chemical Society. The standard molar enthalpies of formation of xanthine and hypoxanthine were measured by using high-precision combustion calorimetry. The standard molar enthalpies of sublimation of these compounds at 298.15 K were derived by the quartz-crystal microbalance technique. Limited thermodynamic data available in the literature are compared with our new experimental data. In addition, we use the G4 method to calculate the molar enthalpies of formation of xanthine and hypoxanthine in the gas phase. There is good agreement between the evaluated experimental data and the quantum-chemical calculations. (Chemical Equation Presented).

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